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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,509	06/23/2003	Robert C. Glenn	P15920	9730

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EXAMINER

RUTLAND WALLIS, MICHAEL

ART UNIT PAPER NUMBER

2835

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,509

Applicant(s)

GLENN, ROBERT C.

Examiner

Michael Rutland-Wallis

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Double Patenting***

A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2-7 of the instant application are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of Glenn U.S. Patent No. 6,882,064.

With respect to claim 2 both the instant application and claim 1 of patent 6,882,064 recite, the same limitations with the exception of claim 1 of the instant application recites "a plurality of control circuits each of the plurality of the control circuits coupled to a respective one of the plurality of the plurality of capacitor switches to generate a respective control voltage, and" is used in the place of "one or more biasing circuits" and in line 2 of claim 2 of the instant application "a plurality of sets" is added before the description of the control biasing circuits. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the plurality of control circuits in the place of the one or more biasing circuits and to add additional sets of control biasing circuits, since it is held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With respect to claim 3 both instant application and claim 2 of patent 6,882,064 recite, the same limitations except the word output is added in line 2 of claim 3 of the instant application. The addition of the word output does not provide any patentable distinction.

With respect to claim 4 both instant application and claim 4 of patent 6,882,064 recite, the same limitations except the word signal is used where patent 6,882,064 uses the word current and the instant application refer to "a plurality of control circuits"

Art Unit: 2835

instead of a control circuit, since it is held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

With respect to claims 5-7 both instant application and claim 5 of patent 6,882,064 recite, the same limitations.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13, 14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 is rejected as it cannot be determined the metes and bounds of the limitation "substantially zero".

Claim 14 is rejected as it cannot be determined the metes and bounds of the limitation "substantially infinite".

Claim 16 is rejected as it cannot be determined the metes and bounds of the limitation "substantially zero".

Claim Objections

Claims 8-11 are objected to as claim 1 reads, "A circuit comprising ..." where claims 8-11 are to drawn to a method. Applicant must either properly amend claims 8-11 to depend from method claim 12 or amend said claims to further define the circuit of claim 1.

Claim 12 recites the limitation "coupling a first of the plurality of control circuit to a control signal" in line 3. The term coupling is usually used when referring to connecting to circuit elements and it is unclear to the examiner what is meant by coupling to a signal.

Claim 7 recites the limitation "the rest voltage" in line 25. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Dingwall et al. (U.S. Pat. No. 5,332,997). Dingwall teaches a circuit comprising: a plurality of capacitors coupled in parallel (Fig. 2 items C0-C2); a plurality of capacitor switches (Fig. 2 items M20- M25), each one of the capacitor switches coupled in series with a respective one of the plurality of capacitors; a plurality of control circuits (Fig. 2 items

M10-M15), each of the plurality of control circuits coupled to a respective one of the plurality of capacitor switches, to generate a respective control voltage (items M10-M15 are connected through signal lines 020-025 to the gate or control terminal of the capacitor switches), and to independently set a respective one of the plurality of capacitor switches to the respective control voltage; and a plurality of control switches (Fig. 2 item M30-35), each of the plurality of control switches to couple and to decouple a respective one of the plurality of control circuits to and from a control signal (Fig. 2 serial data input Di).

With respect to claim 2 Dingwall teaches a plurality of sets of one or more control biasing circuits (Fig. 2 circuit formed by the data input communication line of B0-B-5 forms a first set and data lines of column select communication lines CSj), each of the plurality of sets of one or more control biasing circuits to set a respective control voltage to threshold voltage.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Welland et al. (U.S. Pat. No. 6,574,288) in view of El-Hamamsy et al. (U.S. Pat. No. 5,600,187). Welland teaches a circuit comprising: a plurality of capacitors coupled in parallel (Fig. 7

Art Unit: 2835

items CD0-CDn); a plurality of capacitor switches (S0-Sn), each one of the capacitor switches coupled in series with a respective one of the plurality of capacitors. Welland teaches a control circuit (item 812) to independently set a respective one of the plurality of capacitor switches to the respective control voltage. Welland also teaches the oscillator coupled to the plurality of capacitors by the capacitor switches depends on the capacitance provided to the oscillating circuit by the plurality of capacitors (see abstract). El-Hamamsy teaches a variable capacitor comprising a series capacitance connected in series with a transistor and further comprising control circuits for controlling a control voltage to the transistor. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the circuit of Welland to include a control circuit as taught by El-Hamamsy in order to provide a means for varying the amount of capacitance of the system by applying the different bias levels to the gate of each transistor.

Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welland et al. (U.S. Pat. No. 6,574,288) in view of El-Hamamsy et al. (U.S. Pat. No. 5,600,187) as applied to claim 3 above, and further in view of Sandstedt (U.S. Pat. No. 4,259,746).

With respect to claims 7, 12-14 Welland as modified by El-Hamamsy do not teach the varying of the capacitance based on the control voltage applied. Sandstedt teaches an electrical communication system where in a demultiplexer (item 78) is used to take the input signal and demultiplex the signal to three memory modules (items 80). It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify Welland as modified by El-Hamamsy to include a demultiplexer between the controller (item 812) and the variable capacitance (item 402) as taught by Sandstedt in order to reduce wiring and implement the communication with fewer lines.

With respect to claim 9 Sandstedt teaches the use of a demultiplexer which may be used to generate different control voltages output based on a same control signal.

Welland et al. (U.S. Pat. No. 6,574,288) in view of El-Hamamsy et al. (U.S. Pat. No. 5,600,187) as applied to claim 3 above, and further in view of Sandstedt (U.S. Pat. No. 4,259,746) further in view of Dingwall et al. (U.S. Pat. No. 5,332,997).

With respect to claims 15-16 Welland as modified by El-Hamamsy further in view of Sandstedt do teach a second plurality of control circuits. It would have been obvious to one of ordinary skill in the art at the time of the invention to use multiple pluralities of control circuits in order to control additional components as seen in Dingwall (Fig. 7).

Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dingwall et al. (U.S. Pat. No. 5,332,997) in view of Welland et al. (U.S. Pat. No. 6,574,288)

Dingwall does not teach the use of a charge pump to sink or source the control signal. Welland teaches the use of a charge pump to sink or source a control signal being inputted in to Welland's device. It would have been obvious to one of ordinary skill in the art at the time of the invention to in order for the signal to have the appropriate voltage and current characteristics.

With respect to claim 10 Dingwall as modified by Welland teaches the use of a single charge pump. It would have been obvious to one of ordinary skill in the art at the time of the invention to use multiple charge pumps in order to amplify the each control signal separately *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dingwall et al. (U.S. Pat. No. 5,332,997). Dingwall teaches a plurality of control circuits of claim 1 Dingwall is silent on whether the control circuits are identical. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the control circuits differ in order to vary the capacitance of the system differently based on different input voltages.

Response to Arguments

Applicant's election with traverse of claims 1-16 in the reply filed on November 23, 2005 is acknowledged. The traversal is on the ground that the subcombination is essential to combination. This is not found persuasive because the combination contains the limitations "a transceiver to transmit and receive data". This limitation for data communication and the further limitations of a processor to process said data and double data rate memory in communication with said processor distinguish group I from group II as a subcombination and combination usable together. The requirement is still deemed proper and is therefore made FINAL.

Allowable Subject Matter

Claims 5-6 and 11 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: Dingwall neither alone or in combination with Welland teach a detector, the detector to transmit a difference signal to the charge pump, the difference signal to indicate a difference between a reference signal and an output signal, wherein the output signal is based on one or more of the plurality of capacitors, and wherein the charge pump is to generate the control signal based on the difference signal. Theses further limitations to claims 4 and 10 are not taught or rendered obvious by the prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Okada et al. (U.S. Pat. No.5,960,898) teaches a parallel configured capacitance control system and Welland (U.S. Pat. No.6,137,372) teaches a similar device to that of claim 1 and claim 8.

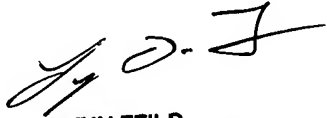
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Rutland-Wallis whose telephone number is 571-272-5921. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EST.

Art Unit: 2835

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MRW


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